3. Detectors—nonlinear circuit elements. Theory of small signal detection. Square law detectors—The crystal, grid-leak, anode regenerative and super-regenerative detectors—harmonic distortion—super heterodyne detection and its merits—large signal detection—the diode detector. Rectification—smoothing filters and power supply systems.
4. Amplifiers—R.C. choke coupled and transformer-coupled amplifiers for audio frequencies—class A and class B amplifiers—Pushpull amplifiers—Distortion in amplifiers—Tone control. Optimum load impedance—Frequency response of A.F. and R.F. amplifiers. Negative feed back—Power amplifiers, expandors, compressors and compandors.
5. RF amplifiers—theory and design—Class C amplifiers neutralisation and frequency multiplication. Efficiency.
6. Oscillators—spark and arc—Alexanderson alternators—Vacuum tube oscillators—Inductively and capacitively coupled oscillators—Hartly and Colpitt's circuits. Self-capacitance coupled oscillators—Negative resistance oscillators—Multivibrators—Impedance and crystal controlled frequency stabilisation—Pulse oscillators. V. H. F. oscillators—Magnetron and Klystrons and positive grid oscillators—V. H. F. oscillators using specially designed triodes—Acorn type and Light-house type tubes.
7. Modulation—Amplitude, frequency and phase modulation. Carrier suppressed and single side band transmission—Frequency distortion and width. Signal to noise ratio and modulator power of A.M. and F.M. systems. Detection of F.M. signals.
8. Electro accustic transducors—carbon-granule-moving coil—ribbon—condenser and crystal microphones. Pressure and pressure gradient actuated systems. Impedance, decibel sensitivity and frequency response of microphones. Directional, bi-directional and non-directional types. Loud speakers. Moving magnet, moving coil and crystal speakers-horns baffles and pick ups.
9. Typical superheterodyne receiver. Typical broadcast transmitter—Crystal controlled class B modulated pushpull class C amplifier system.
10. Cathode ray oscillographs and their applications. Elements of Television—Photoelectric cells and their applications.

SPECTROSCOPY—PAPER I

Planck's Quantum Theory.
Bohr's Atom.
Sommerfeld's elliptic orbits. Space quantisation.
Wave mechanics of the hydrogen atom.
Critical and Ionisation potentials.
Penetrating and non-penetrating orbits
Doublet fine structure.
Fine structure of spectral lines.
Arc and spark spectra.
Pauli's exclusion principle.
Zeeman effect.
Paschen Back effect.
Dynamical model of the atom for two and more than two electrons.
Zeeman effect in complex spectra.
Stark effect.
Iso-electronic sequences.

SPECTROSCOPY—PAPER II

Width of spectral lines.
Hyperfine structure.
Nuclear structure, from h. f. s. and band spectra.
Molecular spectra.
Infra-red spectra.
Light scattering and Raman effect.
Spectrographs and high resolving power instruments.
Forbidden lines.
Intensities of spectral lines.
Saha's theory of ionisation.
Resonance radiation.
Discharge of electricity through gases.
The Electro-magnetic Field. The electron theory.
Optical spectra.
Light scattering.
Thermionics.
Photo-electricity.
The metallic state.
Magnetic properties of atoms and molecules.
Low temperature phenomena.
Dipole moments.
X-rays. Cosmic radiation.
Radio-activity.
Nuclear physics.
Electric oscillations and waves.
Special theory of relativity.
Elements of quantum mechanics.

(*Letter No. E. 10541, dated 31-1-1952 from the Educational Secretary to Government, Bangalore.*)

[The revised syllabus will be given effect to from the examination of 1953]

Notification dated 5—7th June 1952.

Subject—Award of Master's Degree Scholarships.

No. Ex. 5-249—52-53. Applications are invited for the award of ten scholarships of the value of Rs. 100 each per month, tenable for ten months in the years 1952-53-54, to the best qualified B.A., B.Sc., and B.Com., graduates of Backward Communities of the University of Mysore for qualifying themselves for the Master's Degree in other Indian Universities. The award of the scholarships will be subject to the condition that in case the selected candidate does not complete the course successfully he/she must refund the amount of the scholarship received.

Applications should contain the following particulars :—

1 Name ... ...
2 Caste ... ...
3 Address ... ...
4 Examinations passed :—
  (a) Reg. No. ... ...
  (b) Year ... ...
  (c) Class ... ...
5 Subject selected for the course ... .
6 Name of the University in which the Candidate desires to study. .....

Applications may be sent to the Registrar, University of Mysore, so as to reach him on or before 20th June 1952. The covers must be superscribed "*Application for the Master's Degree Scholarship*".

Selected candidates will have to make their own arrangements to secure seats in other Indian Universities where they wish to study.

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Notification dated 3rd June 1952.

No. R.1-85—52-53. Applications for admission to the University Institutions will be received by the Heads of Institutions as follows :—

In respect of all Degree courses ...	15th June 1952.
In respect of the Intermediate courses and the Medical School.	20th June 1952.

Applications received after the last dates mentioned above will not be entertained.

Applications must be accompanied by the leaving certificate and other specified certificates as well as a certified statement of marks obtained at the qualifying examination passed, showing the year or years of passing.

"Copies of marks cards and leaving certificates certified by a Gazetted Officer may be attached to the Application by students who apply for admission to more than one College." The originals should be produced at the time of joining the College.

Candidates coming from a University other than the Mysore University must produce a migration certificate in addition to the above certificate.

Forms of application may be had from the Heads of Institutions concerned. Every application for admission to a College should be accompanied by a fee of one rupee and this will in no case be refunded. Those who want to get the application forms by post must send the requisite postal or a self addressed postal envelope to the Heads of Institutions concerned.

Names of selected candidates for admission will be notified on the Notice Boards of the Institutions concerned.

Selected candidates should join the Institution immediately after the notification, failing which they will forfeit their seats.

By Order,
C. RANGACHAR,
Registrar.

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DEPARTMENT OF PUBLIC INSTRUCTION

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION IN MYSORE, P.R. No. 49, BANGALORE 1.

Notification dated 3rd—5th June 1952.

No. F. Dis. Gl. 3236-34—52-53. - It is hereby notified for general information that a Managing Committee with the following *ex-officio* and *non-official* members is constituted for the District Board High School, Kogalur, Channagiri Taluk as per the resolution dated 14th April 1952 of the District Board, Shimoga :—

1	The President, District Board, Shimoga ...	President
2	The District Educational Officer, Shimoga ...	*Ex-Officio* Member
3	The Sub-Division Officer, Shimoga ...	Do
4	Sri M. S. Papanna, Member, Shimoga District Board, Channagiri	Member
5	Sri T. H. Veerabhadrappa, Member, Shimoga District Board, Thavarekere ...	Do
6	Sri T. N. Veerabasappa, Member, Shimoga District Board, Nalkudre, Channagiri Taluk ...	Do
7	The Chairman, Village Panchayet, Kogalur ...	Do
8	Patel Veerappa, Member, Village Panchayet, Kogalur.	Do

J. B. MALLARADHYA,
Director.

1906

OFFICE OF THE HEAD MASTER, GOVERNMENT HIGH SCHOOL, NANJANGUD.

Notification dated 7th June 1952.

The refund of fees due to the following students of this High School for the year 1951-52, is lying undisbursed. Therefore the students are hereby informed that they should arrange to receive the same at this High School within fifteen days from the date of this notification failing which, the amount due to them will be credited back to treasury and their further claims for the same will be forfeited.

Sl. No.	Name of the student	Class in which he was reading in 1951-52.	Amount Rs. a. p.
1	Puttasetty	I C	12 0 0
2	Nagaraja Rao, M N	II B	14 0 0
3	Krishna, S R	II B	14 0 0
4	Siddiah, M	II B	14 0 0
5	Sreedhara Murthy	II C	14 0 0
6	Chinnammanni	II C	7 0 0
7	Nagarathnamma, T K	I A	6 0 0
8	Jayakumara Setty, Y K L	I D	12 0 0
9	G K Rajamma	II B	8 12 0

K. KRISHNASWAMY IYENGAR,
Head Master.

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INDIAN AUDIT AND ACCOUNT DEPARTMENT.

OFFICE OF THE ACCOUNTANT-GENERAL, MYSORE, BANGALORE.

Notification dated 27th May 1952.

To

All Deputy Commissioners,
Treasury Department, (except Bangalore and State Huzur Treasury)

Subject :—Payment of loans sanctioned by the Department of Industry and Commerce for Industrial. Agricultural and Commercial purposes.

Sir,

No. 271—DH. 1.—Government in their Order No. I. 267-70—I. & C. 31-51-5, dated 30th April 1952, having empowered the Director of Industries and Commerce, Bangalore, to draw the loan amounts, payable at mofussil treasuries, himself and disburse them to the parties, the bills drawn on the mofussil treasuries may be honoured and payments arranged for on satisfying that (i) a copy of the order sanctioning the loan is enclosed to the bill, (ii) the bill is countersigned by the Director for the amount claimed on the bill, and (iii) a certificate is recorded on the bill, by the Director to the effect that the necessary bond has been executed and taken to safe custody.

The above procedure does not, however, apply to loans sanctioned by Government, which will continue to be pre-audited by this office as hithertofore.

Yours faithfully,
K. B. LAKSHMINARASIMHA SASTRY,
Asst. Accountant-General.

1700

Circular dated 27th May 1952.

To

All Heads of Departments and Drawing Officers.

Subject :—Expenditure met out of advances from the "Contingency Fund" of the State.

Sir,

No. 4—T.M.—Advances are sometimes sanctioned by Government from the Contingency Fund for meeting expenditure which is not provided for in the budget, pending authorisation of such expenditure by the Legislature. The advances granted to each Head of the Department is recorded under a separate minor head under "Contingency Fund" in the books of this office, each major head under the consolidated fund being treated as a minor head under the "Contingency Fund". The Heads of Departments are responsible for the distribution of the advance among their subordinate officers, for obtaining detailed accounts from them and for maintaining a consolidated account of the advance. They should watch *that the expenditure does not exceed the advance on any account.* The following instructions are issued for the guidance of departmental officers :—

1. The amounts debitable to the Contingency Fund should be drawn on the usual bill forms as and when required, the head "Contingency Fund" being conspicuously noted on the top of the facing sheet of the bill. The detailed procedure prescribed for bills debitable to the Consolidated Fund applies to these bills also. The treasuries are required to enter the amounts debitable to the "Contingency Fund" in separate scheduled departmentwise. The department to which the expenditure relates should be noted in brackets. For example, when the amount relates to Famine Relief, the classification should be noted as follows :

Debitable to "Contingency Fund"
(54. Famine Relief).

2. Particulars of the amount of advance, expenditure to-date and balance available should be noted on each bill. If the advance placed at the disposal of the Head of a Department is distributed among several Drawing Officers, the amount of such sub-advance, the total expenditure to-date, and the balance available should be noted by them on the bills. The Treasury Officers have been instructed not to encash bills which do not contain such information,

3. The Drawing Officers should send a monthly account to the Head of the Department in the following form :—

Date	Particulars of sub-advances sanctioned	Amount Rs. As. Ps.	Date	Particulars of each bill drawn from the Treasury	Amount Rs. As. Ps.
				(Balance available)	
	Total ...			Total ...	